Trend Study 11B-10-00

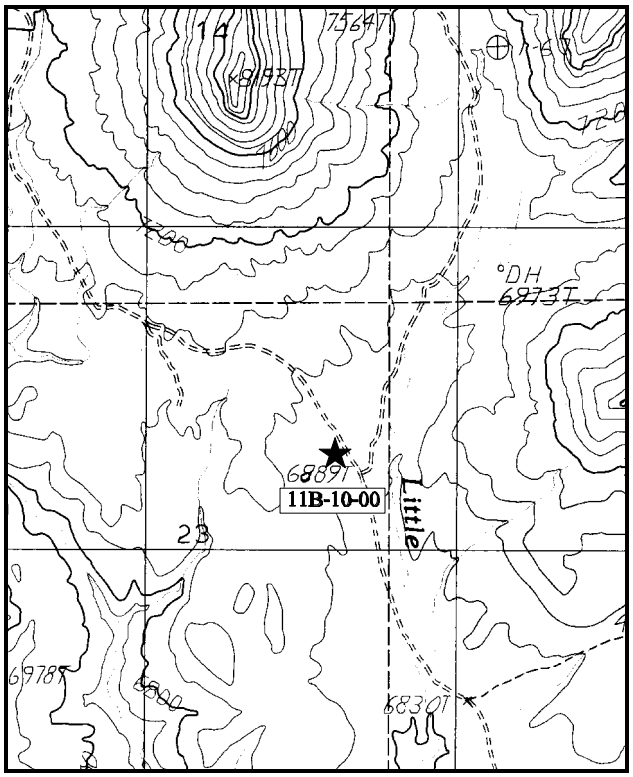
Study site name: Upper Little Park Wash . Range type: Big Sagebrush .

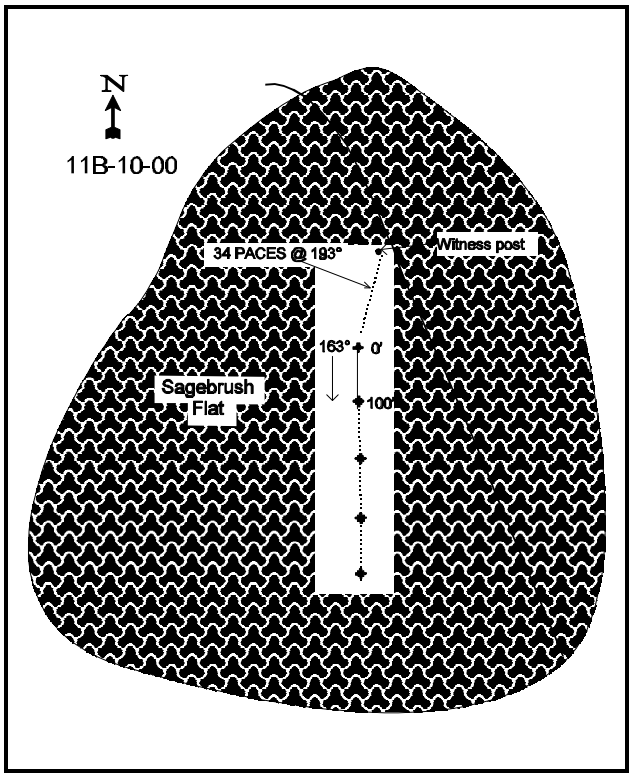
Compass bearing: frequency baseline 165°M.

Footmark (first frame placement) 5 feet, footmarks (frequency belts) line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

From East Carbon City, take SR-124 south for 2.3 miles to a fork with a sign to Horse Canyon Turn right and proceed 6.4 miles to a railroad tresses located above the Geneva Mine buildings. Continue 0.2 miles to another tresses. From this tresses continue up the canyon 0.6 miles. Stay right at the fork and go up 6.85 miles to a witness post on the right side of the road. From the witness post (a green fence post) go 100 feet into the sagebrush on a bearing of 230~ to a fence post with browse tag #7838 attached. This post marks the 0-foot end of the frequency baseline. The rest of the stakes are steel rebar.





Map Name: Lila Point Diagrammatic Sketch

Township 16S , Range 14E , Section 23

DISCUSSION

Trend Study No. 11B-10 (32-14)

***This trend study site was not read in 2000. Text from the 1994 report has been retained in this report. Refer to the 1994 "Utah Big Game Trend Studies" report for maps and data tables.

The Upper Little Park Wash transect is located in critical deer winter range along the west edge of the Book cliffs at an elevation of approximately 7,000 feet. Beyond Little Park, the cliffs drop off abruptly to the low desert floor 800 feet below. The study area is in an open draw filled with basin big sagebrush and many active gullies of various sizes which were distributed throughout the flat. The sagebrush flat is surrounded by pinyon-juniper covered slopes and cliffs. Deer use has generally been moderate with heavier use occurring in hard winters. The nearby pellet group trend transect shows that for the period from 1982-1988, deer use averaged 53 deer days use/hectare/year, which was above average for the herd unit. After 1989 the pellet group transect was no longer read. Use in the area was very light in 1994. The Little Park area has been permitted for 54 cattle from May 26 to October 10, but this particular area is poor for cattle and there was little sign of livestock use in 1986. Since then, in 1992, there was a control burn and seeding in this narrow canyon bottom and associated sagebrush park of basin big sagebrush. Because of the difficulty in getting a good clean burn through the park, a bulldozer bladed the unburned and partially burned sagebrush into the numerous gullies that bisect the sagebrush park. Because of the light fluffy soils, the rangeland drill had difficultly getting the seed at the proper depth causing erratic germination and establishment of the seeded species, for few seeded species showed up in the 1994 readings.

Pressure from people is low and access is difficult during winter and wet conditions. Kaiser Steel has developed mine plans for their south lease on portions of Little Park public land. The development may become a reality if the economic climate is favorable in the future. Restrictions concerning surface occupancy and access into the Little Park winter range are expected (Ashcroft 1983) and would be necessary.

Soil on this gently sloping, southeast-facing site is deep and a light tan-grey color. It appears to contain a high percentage of clay. Small rock fragments are common throughout the profile. Rocks and mud piles are found on the surface, evidence of sedimentation and deposition from the surrounding pinyon-juniper slopes. Some erosion occurs from the site due to the rather sparse understory and bare spots. This has been turned around after the bulldozer treatment and subsequent seedling with a rangeland drill. Before the work was done to the soil surface, pavement cover was almost 10%. After the treatment it is almost zero (.24%). The numerous small gullies, one large active gully, and rills that ran through the sagebrush park are now filled in. Litter cover, since the treatment, declined from 50% to only 27%.

Basin big sagebrush is the key browse species on the site. It was so large and dense in the past that it was difficult to walk through. The average height of mature plants was three and half feet. The large available plants showed light to moderate utilization by deer. Insect damage, in the form of numerous galls and speckled leaves, was evident on some of the plants in 1986. Overall vigor and growth of these plants was only fair in this closed stand which was at an ecological dead end. Density of mature plants was 3,198 plants/acre in 1986 with an estimated cover of 70%. Two years after the treatment, sagebrush density was actually higher at 9,080 plants/acre, but percent cover is now down to about only 2% with 60% of the population classified as young plants. Vigor is good and percent decadency has declined from 65% to 0%.

A few winterfat and saltbush can be found in the area. There has been minimal invasion by junipers into the flat. Junipers on the hillside provide cover and some forage with a few junipers highlined by deer. Resting cover is also good in the flat.

The dense sagebrush overstory in the past had greatly limited species diversity and distribution in the understory which was consequently very sparse. In 1986, cheatgrass prevailed in the small open spaces, while bottlebrush squirreltail, Indian ricegrass and some sheep fescue were found mixed in with the sagebrush. Utilization of grasses by livestock was difficult because of the dense sagebrush. Forbs were also sparse and were unimportant as forage. Since the treatment herbaceous plants dominate the site by providing 92% of the vegetation cover. As mentioned earlier, seeded species have not established very well but many seeded species were encountered during the 1994 reading. Cheat grass dominated the herbaceous understory and provides 67% of the herbaceous cover. Seeded and native perennial species will hopefully increase on the site.

Forbs are also dominated by annuals. The only seeded forb encountered was Lewis flax which had a quadrat frequency of only 6%. The most common forbs on the site are Russian thistle and annual stickseed.

1986 APPARENT TREND ASSESSMENT

Erosion and sedimentation are active forces on this site, leading to an apparent downward soil trend. Basin big sagebrush, the key browse species, has a high density, over-mature population that will probably experience continued decadence. There are abundant seedlings for replacement however, with a continued population turnover, it will eventually result in increased production. Range trend is considered to be stable. The lack of diversity in the herbaceous component does not indicate a healthy site, but is not critical in terms of deer winter range. An increase in the herbaceous vegetation would constitute a habitat improvement for deer that also use the area in the spring and fall. A patchy spring burn would open up the stand and offer an opportunity to seed species that would provide early green-up in the spring and valuable regrowth in the fall.

1994 TREND ASSESSMENT

Active erosion and sedimentation are no longer a problem after the burn and seeding treatment. Percent bare ground has increased slightly, but there is a better distribution of plant and litter cover. Ninety-two percent of the plant cover is contributed by the herbaceous species which is also more protective of the soils, therefore soil trend at this time would be considered improving. The browse trend is up because of the younger population which, as they become more mature, will be much more productive and vigorous for a critical winter range. The trend for the herbaceous understory is mixed. Nested frequency of herbaceous plants have increased nearly four fold since the treatment. However, 90% of the grass cover is now cheatgrass and 92% of the forb cover is made up of annuals. Through time, this should turn around as the perennial species become more dominant over the less desirable annual species. The area is now very susceptible to fire because of the prevalence of annual species. Nested frequency of perennial grasses and forbs is nearly the same as before the treatment. Due to the dominance of annuals, trend for herbaceous understory is
down.

TREND ASSESSMENT
soils - stable to improving (4)
browse - up (5)
herbaceous understory - down because of the dominance of annual species (1)